



ecology and environment, inc.

CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961

International Specialists in the Environment

MEMORANDUM

TO: Paul Doherty, EPA/DPO

FROM: Buck Brooks, E & E/TATM *BWB*

THRU: Joe Chandler, E & E/TATL *JCC*

DATE: March 21, 1991

SUBJECT: Site Assessment: **Harcros Chemical Company**
TDD#: T07-9010-054B
PAN#: EKS0024SAA
EPA OSC: Jeff Weatherford

Site:	<i>Harcros Chem Co</i>
ID#:	<i>KST210010062</i>
Break:	<i>1.5</i>
Other:	<i>3-21-91</i>

INTRODUCTION

On February 20, 1990, the Ecology and Environment, Inc., Technical Assistance Team (E & E/TAT) was tasked by Paul Doherty, U.S. Environmental Protection Agency (EPA) Emergency Planning and Response (EP&R) branch to perform a site assessment and conduct soil sampling at Harcros Chemical, Inc., 5200 Speaker Road, Kansas City, Kansas. This request was in response to allegations from a former employee of buried trichlorophenol (TCP) on the property.

BACKGROUND

The corporation known as Harcros Chemical controls ownership of approximately 74 acres located in the Argentine industrial district of Kansas City, Kansas, on the floodplain of the Kansas River. The district has long been an area for industrial operations of all types, as it has convenient access to Kansas and Missouri rivers and has an abundance of groundwater available from the alluvium of these river systems.

Prior to June 1981, the facility operated under the name Thompson Hayward Chemical Company (THCC), a subsidiary of North American Phillips (NAP). At that time, THCC owned T.H. Agriculture and Nutrition Company, Inc. (THAN), who also operated at this location. In June of 1981, most of the THCC property was sold to Harrison and Crossfield, a British company. The name which the company currently operates under (Harcros) is a result of the joint ownership of Harrison and Crossfield. THAN, the sister company of THCC, operated until it was dissolved in 1983.

30256190



Superfund

Harcros Chemical, Inc., is a wholesale distributor of industrial and pest-control chemicals and equipment. They also manufacture surface-active agents such as industrial emulsifiers, wetting agents, and anti-foam agents. From approximately 1963 to 1977, pesticides and herbicides including 2,4-dichlorophenoxyacetic acid, (2,4-D) 2,4,5-trichlorophenoxyacetic acid, and 2-(2,4,5-trichlorophenoxy) proprionic acid were also formulated at this facility.

Because the manufacture of 2,4-D and similar pesticides has been linked to dioxin generation, THCC retained a private organization, Brehm Laboratory at Wright State University in Dayton, Ohio, to sample and test for dioxin in 1981. Results from Brehm Laboratory yielded TCDD concentrations ranging from 2.0 - 639 ppb. These samples were collected from the tank car loading site, treatment tank soil, former location of a vent tank, process building, warehouse drain, settling pond bank, and the sump in the drain to the aeration pond. In July 1983, the Kansas Department of Health and Environment (KDHE) issued an administrative order mandating an investigative plan of action to address the dioxin contamination on THCC and THAN property. In response to this mandate, Woodward Clyde Consultants (WCC) was contracted to conduct field investigations at THCC on April 27 through June 24, 1983, and November through December, 1983.

According to a WCC report dated February 7, 1984, TCDD analytical results of all exterior soil, water, dust, and sediment samples obtained during the KDHE/EPA and THCC/WCC field investigations indicated that detectable levels of TCDD greater than 1 ppb were not found outside of the fenced portions of the THCC site, and were only present within the fenced portion of the site near prior 2,4,5-T processing activities. TCDD was not detected in any of the ground or surface water samples analyzed.

This sampling effort was initiated in response to the alleged burial of 6,000 to 8,000 pounds of trichlorophenol (TCP) in the early 1970s at the facility. This information was reported to EPA from a former THCC employee.

PRELIMINARY INVESTIGATION

Following the submittal of a draft work plan to the EPA on March 15, 1990, TATM Brooks arranged a meeting with the informant, [REDACTED] through Scott Ritchey, EPA Counsel. On March 30, 1990, [REDACTED] met with TATM Brooks at Harcros Chemical, Inc. to define the exact areas where the alleged burial had taken place. After gaining access, [REDACTED] defined three areas where he believed contamination to be present. These areas are located immediately adjacent to tank dike #3 (site map) and will be referred to hereafter as follows: (1) A 15-foot by 15-foot square area referred to as the "burial location", bounded by tank dike #3 on the west, and the overhead pipeline on the east. (2) An area approximately 15-foot by 60-foot, located between tank dikes #3 and #4, which was reported as being the "transport area". The contamination in this area was said to have resulted from the movement of the

solidified TCP with a front-end loader from the spill location to the alleged burial pit. (3) A 12-foot by 24-foot area lying between tank dike #3 and the railroad tracks, was believed to be the "spill location".

The objective of this field investigation was to collect soil samples to determine if trichlorophenol was present at the alleged burial location, spill location, and/or transport area. The data gathered from the sampling efforts will be used to determine whether a removal action is warranted at this site.

ON-SITE ACTIVITIES

On May 10, 1990, at 0900 hours, the TAT sampling team of Randy Schademann, Lynn Parman, and Buck Brooks arrived on site. After gaining access to the site, TAT began collection of soil samples. An 8-inch by 5/8-inch inside diameter soil sampling tube was advanced by pushing successive 3-foot sections of 1-inch diameter pipe using the hydraulically driven Geoprobe. The initial sample point was located at the center of the area previously defined as the "burial location". Sample collection then radiated outward from the initial sample point at 4-foot intervals in all compass directions (N, S, E, W). Fourteen samples were collected from five sample points within the 15-foot by 15-foot area alleged as being the "burial location". Two aliquots were collected to form a representative soil sample from each discrete layer at depths of 4-5 feet, 9-10 feet, and 14-15 feet at every sample point except sample point #1 (site location map; i.e., hole #1). Sample point #1 was only sampled at discrete depths of 4-5 feet and 10-13 feet. The soil sampling tubes were thoroughly decontaminated with an Alconox wash and water rinse prior to sample collection at each depth. Samples were collected from the soil sampling tube and homogenized using disposable stainless steel spoons and aluminum pie pans. Disposable surgical gloves were changed between sample points.

On May 11, 1990, TATMs Tim Tarwater and Jim Kudlinski joined the sample team to help complete the scheduled sampling. TAT laid out 5 sample points at 10 foot intervals along the center of the 15-foot by 60-foot section defined as the "transport area". One composite sample was proposed to be collected from five aliquots at a depth of one foot. However, TAT was unable to complete the fifth aliquot, due to a subsurface obstruction encountered while using the Geoprobe.

The final sampling was conducted in the "spill location", which was characterized by laying out 4 sample points at 6-foot intervals along the center of the 12-foot by 24-foot area. One composite sample was collected from four aliquots at a depth of one foot.

A total of 16 soil samples were collected from the three areas suspected of TCP contamination (Table 1). Two duplicate soil samples were collected, along with an H₂O field blank, rinsate sample, and a sample collected from the decontamination water.

Following the completion of sampling activities on May 11, 1990, OSC/Weatherford delivered samples to the EPA Region VII Laboratory for analysis. The analytes requested were polychlorinated dibenzo-p-dioxins (PCDDs), 2,4,6-trichlorophenol (2,4,6-T), 2,4,5-trichlorophenol (2,4,5-T), and 2,3,4-trichlorophenol (2,3,4-T).

RESULTS

Validated sample results indicating modified data resulting from re-extractions were received by the TAT on March 4, 1991. Sample analysis revealed the presence of 2,4,5-T in concentrations ranging from 300 to 20,000 ug/kg in seven soil samples (Table 1). Of the seven samples yielding concentrations of 2,4,5-T, five were located in the alleged "burial area", one in the "transport area", and one in the "spill location". It should be noted that only one sample was collected from the "transport area" and one from the "spill location".

Detection limits were elevated for sample 015D due to a dilution factor of 1:50. As a result, a detection limit of 10,000 ug/kg was used for 015D, while 200 ug/kg was used for 015.

Sample 11 was "I" coded due to problems encountered during analysis which rendered it unquantifiable. Soils analysis for all samples for the isomers 2,3,4-T and 2,4,6-T proved to be less than the reported detection limits (non-detect).

Concentrations of 2,3,7,8-tetrachlorodibenzo-p-dioxin were found in three soil samples, including a duplicate. Samples 015, 015D, and 016, yielded concentrations of 2.4, 2.4, and 18 ug/kg respectively. Although not depicted in Table 1, sample 016 also yielded values of 3.0 and 3.1 ug/kg for non-2378 XX hexachlorodibenzo-p-dioxin and octochlorodibenzo-p-dioxin. Samples 015 and 15D were collected from the "transport area", while 016 was collected from the "spill location". Soil samples 004, 006, 012, and 013 were not analyzed for PCDDs.

Of the three water samples submitted for TCP analysis, all were nondetect, except for sample 19 which was J-coded at 38 ug/L for 2,4,5-T. However, due to poor surrogate recovery, the results for sample 018 were coded "I".

The only water sample submitted for PCDD analysis was 019, which was collected from the decontamination water used to clean the Geoprobe sections. This sample tested .09u for 2,3,7,8-TCDD.

SUMMARY

TAT was tasked to conduct subsurface soil sampling to determine the presence/absence of trichlorophenol (TCP) at Harcros Chemical, Inc., 5200 Speaker Road, Kansas City, Kansas, in response to allegations by a former employee of buried TCP on the property. Subsurface soil samples revealed concentrations of 2,4,5-trichlorophenol ranging from 300-20,000 ug/kg. Concentrations of 2,3,7,8-TCDD ranging from 2.4 - 18 ug/kg were

found in three soil samples, including a duplicate. All three water samples were nondetect for TCP and its isomers, as well as nondetect for PCDDs, except for one J-coded value at 38 ug/kg for 2,4,5-T. The analytical results from TAT's assessment supported the informant's allegation of a trichlorophenol spill at this site.

ATTACHMENTS

Table 1
Site Location Map
Site Sketch Map
Analytical Results
Photographic Record

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TABLE 1

The Sampling Results from the "spill area", "transport area", and "burial location"
at Harcros Chemical Company

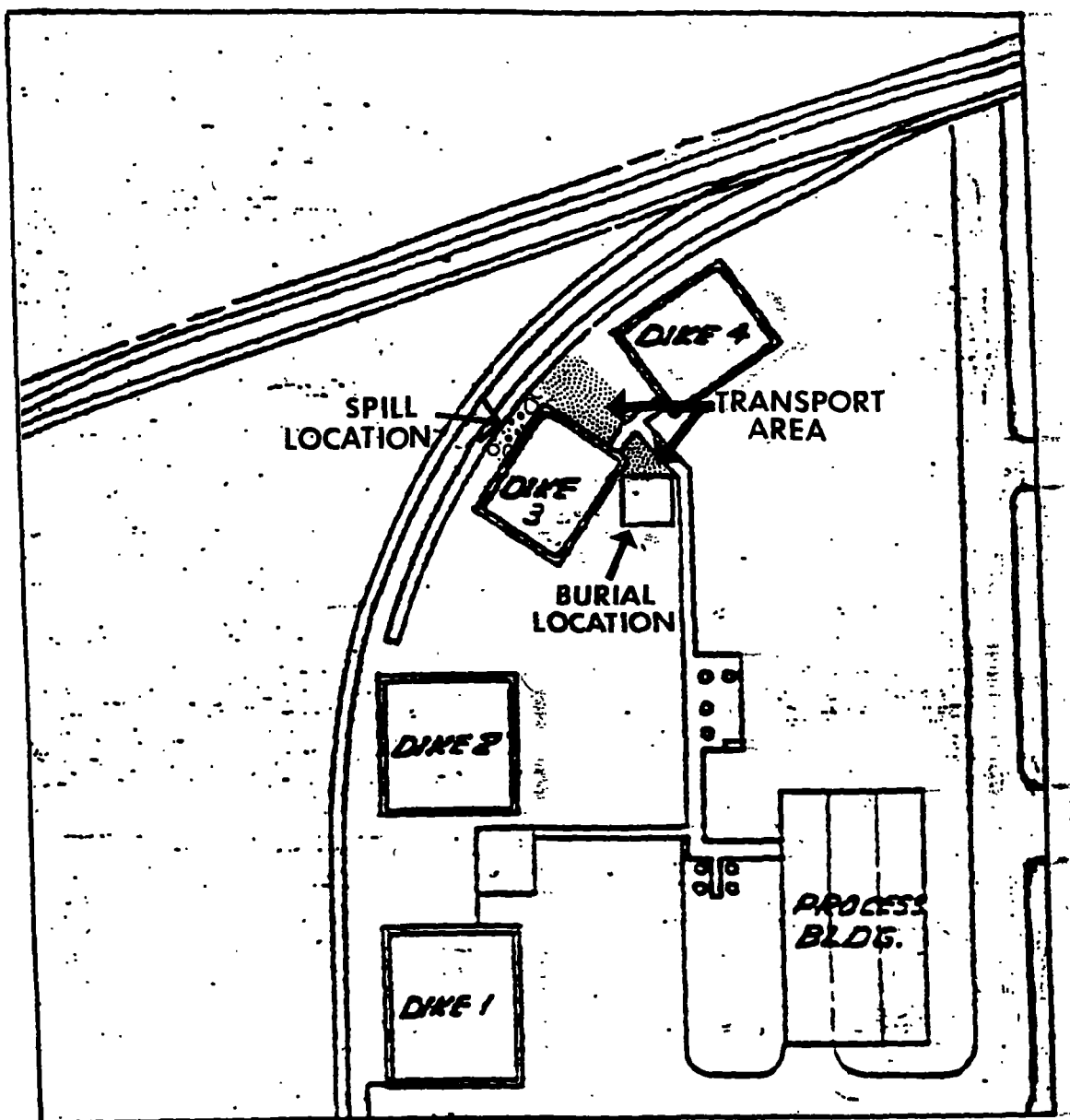
SAMPLE #	DEPTH	ALIQUOTS	DESCRIPTION	Concentration in ug/kg - (soil) ug/L (water)			
				2,3,7,8-TCDD	2,4,5-T	2,3,4-T	2,4,6-T
CWKE2001	4-5'	2	Burial Location	2.0u	9700	1500u	1500u
002	10-13'	2	Burial Location	2.0u	250u	250u	250u
003	4-5'	2	Burial Location	2.0u	200u	200u	200u
004	9-10'	2	Burial Location	Not Analyzed	200u	200u	200u
005	14-15'	2	Burial Location	2.0u	200u	200u	200u
006	4-5'	2	Burial Location	Not Analyzed	250u	250u	250u
007	9-10'	2	Burial Location	2.0u	290u	290u	290u
008	14-15'	2	Burial Location	2.0u	1500	200u	200u
009	4-5'	2	Burial Location	2.0u	500u	500u	500u
009D	4-5'	2	Burial Location	2.0u	350u	350u	350u
010	9-10'	2	Burial Location	2.0u	3800	350u	350u
011	14-15'	2	Burial Location	2.0u	I	I	I
012	4-5'	2	Burial Location	Not Analyzed	200u	200u	200u
013	9-10'	2	Burial Location	Not Analyzed	5500	200u	200u
014	14-15'	2	Burial Location	2.0u	20,000	200u	200u
015	1'	4	Transport Area	2400	1100	200u	200u
015D	1'	4	Transport Area	2400	10,000u	10,000u	10,000u
016	1'	4	Spill Location	18,000	300	200u	200u
017F	-	-	Field Blank (H ₂ O)	Not Analyzed	10u	10u	10u
018	-	-	Rinsate Sample from Sampling Tube	Not Analyzed	I	I	I
019	-	-	Sample from Decon H ₂ O	.09u	38J	10u	10u

J = Date reported but not valid by approved QC procedures.

I = Invalid sample/data - value not reported.

U = Less than the measurement detection limit.

SITE LOCATION MAP



HARCROS CHEMICALS, INC.

PAN# TKS0024SAA

KANSAS CITY, KS.

5200 SPEAKER ROAD

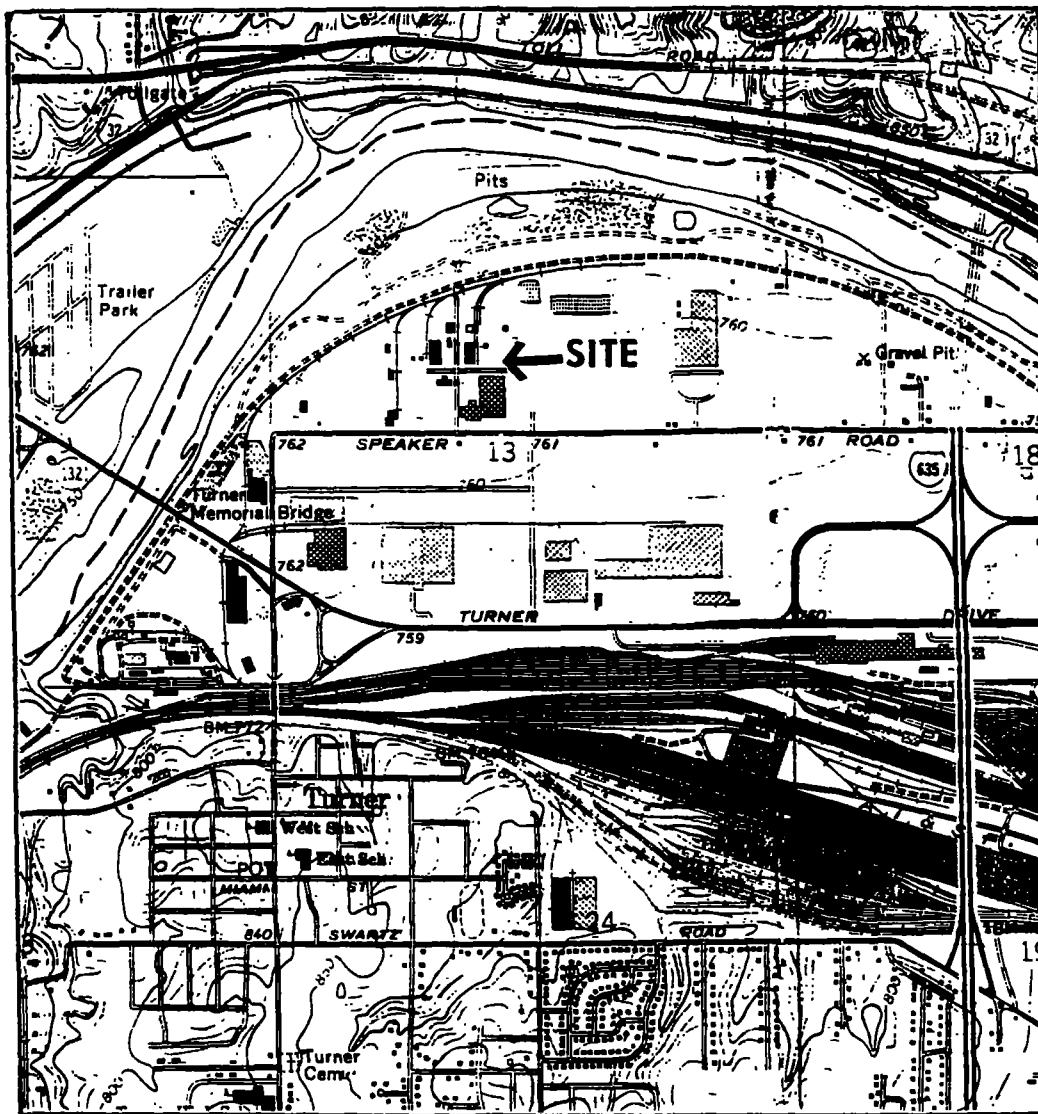
TDD# T07-9002-031



ecology and environment, inc.
OVERLAND PARK KANSAS

SITE LOCATION MAP

SHAWNEE QUADRANGLE
KANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)

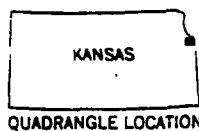


HARCROS CHEMICALS, INC.

PAN# TKS0024SAA

KANSAS CITY, KS.

5200 SPEAKER ROAD



QUADRANGLE LOCATION

TDD# T07-9002-031



ecology and environment, inc.
OVERLAND PARK KANSAS

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Ecology and Environment, Inc.

Photographic Record

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Client: EPA Region VII

Camera Make: Olympus

E & E Job No.: ZT1071

Serial No. : 1048989

SITE NAME: Harcros Chemical

SITE LOCATION: Kansas City, Kansas

TDD/PAN No.: T07-9010-054B/EKS0024SAA

Photographer: Jeff Weatherford

Date/Time : 5/10/90, 0845 hrs.

Lens: Type: 50 MM

Serial No.: 1048989

Frame No. : 4

Direction : East

Comments : Extraction of soil
sample from Geoprobe.



Photographer: Jeff Weatherford

Date/Time : 5/11/90, 1000 hrs.

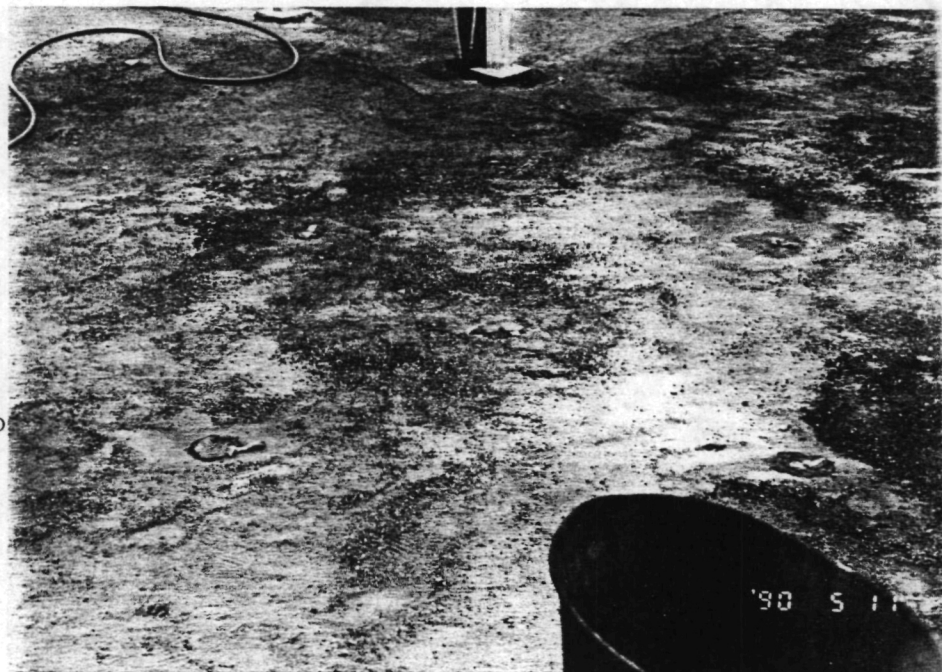
Lens: Type: 50 MM

Serial No.: 1048989

Frame No. : 5

Direction : Southeast

Comments : Red flagging shows
location of the five
deep holes sampled to
characterize the
"burial location".



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Ecology and Environment, Inc.

Photographic Record

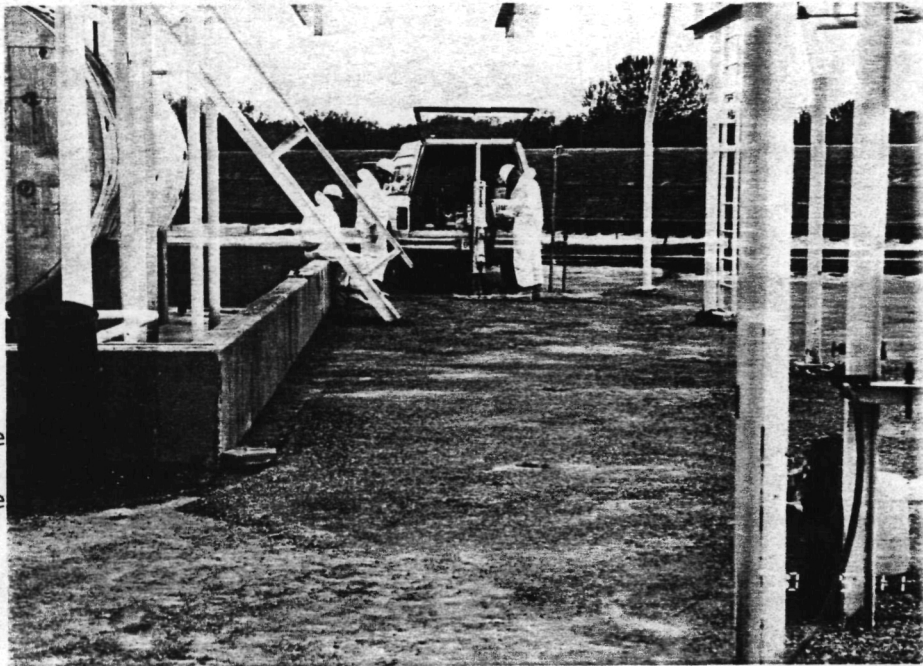
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Client: EPA Region VII
Camera Make: Olympus

E & E Job No.: ZT1071
Serial No. : 1048989

SITE NAME: Harcros Chemical
SITE LOCATION: Kansas City, Kansas
TDD/PAN No.: T07-9010-054B/EKS0024SAA

Photographer: Jeff Weatherford
Date/Time : 5/11/90, 1200 hrs.
Lens: Type: 50 MM
Serial No.: 1048989
Frame No. : 9
Direction : North
Comments : TAT developing 5th
hole in "transport
area". Due to a
obstruction, the 5th
hole wasn't able to be
sampled. The red
flagging indicates the
4 sample locations.



Photographer: Jeff Weatherford
Date/Time : 5/11/90, 1340 hrs.
Lens: Type: 50 MM
Serial No.: 1048989
Frame No. : 11
Direction : West
Comments : The red flagging
shows the four sample
points developed in
the "spill location".



ANALYSIS TYPE:

TITLE: HARCROS CHEMICAL

MATRIX: SOILUNITS: ug/Kg

LAB: REGION VII EPA

METHOD: 62518CASE: CWXE2SAMPLE PREP: _____ ANALYST/ENTRY: W REVIEWER: QA DATE: _____

REVIEW LEVEL: _____

<u>COMPOUND</u>	<u>SAMPLES</u>			
	CWXE2 001	CWXE2 002	CWXE2 003	CWXE2 004
2,4,6 Trichlorophenol	1500 U	250 U	200 U	200 U
2,4,5 Trichlorophenol	9700	250 U	200 U	200 U
2,3,4 Trichlorophenol	1500 U	250 U	200 U	200 U

ANALYSIS TYPE:

TITLE: HARCROS CHEMICAL

MATRIX: SOIL

UNITS: ug/Kg

LAB: REGION VII EPA

METHOD: 62518

CASE: CWXE2

SAMPLE PREP: _____ ANALYST/ENTRY: MW

REVIEWER: CA

DATE: _____

REVIEW LEVEL: _____

COMPOUND

SAMPLES

	CWXE2 005	CWXE2 006	CWXE2 007	CWXE2 008
2,4,6 Trichlorophenol	200 U	250 U	290 U	200 U
2,4,5 Trichlorophenol	200 U	250 U	290 U	1500
2,3,4 Trichlorophenol	200 U	250 U	290 U	200 U

ANALYSIS TYPE:

TITLE: HARCROS CHEMICAL

MATRIX: SOILUNITS: ug/Kg

LAB: REGION VII EPA

METHOD: 62518CASE: CWXE2SAMPLE PREP: _____ ANALYST/ENTRY: MP REVIEWER: LA DATE: _____

REVIEW LEVEL: _____

COMPOUNDSAMPLES

	CWXE2 009	CWXE2 010	CWXE2 011	CWXE2 012
2,4,6 Trichlorophenol	500 U	350 U	200 U	200 U
2,4,5 Trichlorophenol	500 U	3800	200 U	200 U
2,3,4 Trichlorophenol	500 U	350 U	200 U	200 U



ANALYSIS TYPE:**TITLE: HARCROS CHEMICAL****MATRIX: SOIL****UNITS: ug/Kg****LAB: REGION VII EPA****METHOD: 62518****CASE: CWXE2****SAMPLE PREP: _____ ANALYST/ENTRY: AW REVIEWER: CA DATE: _____****REVIEW LEVEL: _____****COMPOUND****SAMPLES**

	CWXE2 013	CWXE2 014	CWXE2. 015	CWXE2. 016
2,4,6 Trichlorophenol	200 U	200 U	200 U	200 U
2,4,5 Trichlorophenol	5500	20,000	1100	300
2,3,4 Trichlorophenol	200 U	200 U	200 U	200 U

ANALYSIS TYPE:

TITLE: HARCROS CHEMICAL

MATRIX: SOIL

UNITS: ug/Kg

LAB: REGION VII EPA

METHOD: 6251S

CASE: CWXE2

SAMPLE PREP:

ANALYST/ENTRY: *WJ*REVIEWER: *A*

DATE:

REVIEW LEVEL:

<u>COMPOUND</u>	<u>SAMPLES</u>							
	CWXE2 015D		CWXE2 009D		CWXE2 016R		CWXE2 016S	
2,4,6 Trichlorophenol	10000	U	350	U	200	U	10000	U
2,4,5 Trichlorophenol	10000	U	350	U	200	U	10000	U
2,3,4 Trichlorophenol	10000	U	350	U	200	U	10000	U
Phenol	10000	U	350	U	4000		10000	U
2-Chlorophenol	10000	U	350	U	4000		10000	U
4-Chloro-3-Methylphenol	10000	U	350	U	4000		10000	U
4-Nitrophenol	10000	U	350	U	4000		10000	U
Pentachlorophenol	10000	U	350	U	4000		10000	U

ANALYSIS TYPE:

TITLE: HARCROS CHEMICAL

LAB: REGION VII EPA

SAMPLE PREP:

REVIEW LEVEL:

MATRIX: WATER

METHOD: 62518

UNITS: ug/L

CASE: CWXE2

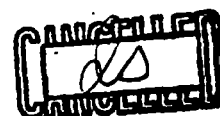
ANALYST/ENTRY: BLS

REVIEWER: *CL*

DATE: 7/25/70

COMPOUNDSAMPLES

	CWXE2 900M	CWXE2 017F ^{do}	CWXE2 018	CWXE2 019
2,4,6 Trichlorophenol	10 U	10 U	10 U	38
2,4,5 Trichlorophenol	10 U	10 U	10 U	10 U
2,3,4 Trichlorophenol	10 U	10 U	10 U	10 U



ANALYSIS TYPE:**TITLE: HARCROS CHEMICAL****LAB: REGION VII EPA****SAMPLE PREP:****ANALYST/ENTRY:****REVIEWER:****DATE:****REVIEW LEVEL:****MATRIX: WATER****UNITS: ug/L****METHOD: 62518****CASE: CWXE2****COMPOUND****SAMPLES**

	CWXE2 901H	CWXE2 901G
2,4,6 Trichlorophenol	10 U	10 U
2,4,5 Trichlorophenol	10 U	10 U
2,3,4 Trichlorophenol	10 U	10 U
Phenol	200	44
2-Chlorophenol	200	100
4-Chloro-3-methylphenol	200	100
4-Nitrophenol	200	38
Pentachlorophenol	200	89

**U. S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICES ASSISTANCE TEAM – ZONE II**

ICF Technology Inc.

NSI Technology Services Corp.

The Bionetics Corp.

ESAT Region VII
NSI Technology Services
25 Funston Road
Kansas City, KS 66115
(913) 236-3881

TO: Debra Morey,
Data Review Task Monitor, USEPA Region VII
THRU: Harold Brown,
ESAT Project Officer, USEPA Region VII
FROM: Robert Nichols, *REN*
ESAT QA/QC Chemist
THRU: Ronald A. Ross,
ESAT Team Manager
DATE: August 30, 1990
SUBJECT: Harcros Chemical - Data Review

TID#: 07-9003-329 Assignment#: 583
ICF ACCT.#: 26-329-02 NSI S.O.#: 4633-3292

ESAT Doc. Tracking #: ESAT-VII-329-08-30-90-05

These data were reviewed primarily according to the standards specified in the SAS Request and the referenced method (SW-846 #8280).

The following comments and attached data sheets are a result of the ESAT review, according to EPA policies, of the following data from the contract laboratory.

SAS/Case No.: 5550G
Site: Harcros Chemical
Reviewer: Bob Nichols

Laboratory: CHEMWEST
Method No.: 8280 (SW-846)
EPA Activity No.: CWXE2

This data review assignment covers FOURTEEN SOIL and THREE WATER samples, including a Field Blank and two Field Duplicates, which were analyzed for DIOXINS and FURANS in support of SAS/Case number 5550G. No Laboratory Check Sample data was included. ~~Upon review of the EPA Field Sheets and LAST sample definitions, it was determined that none of the soil samples were to have been analyzed for Furans and none of the three water samples (sample numbers CWXE2-017F, -018 and -019) were to have been analyzed for Dioxins or Furans.~~ Therefore, none of the Furan data reported for the soil samples and none of the data reported for the water samples were reviewed or entered in to LAST. It should be noted however that positive results were reported for assorted Furans in samples # CWXE2-001, -015, -015D, and -016, and no positive results were reported for the water samples.

The following samples were included in this data package (as per the project file note, dated 7/31/90, SMO sample numbers are unavailable):

<u>EPA #</u>	<u>Matrix</u>	<u>Description</u>	<u>EPA #</u>	<u>Matrix</u>	<u>Description</u>
CWXE2-001	Soil	Sample	CWXE2-010	Soil	Sample
CWXE2-002	Soil	Sample	CWXE2-011	Soil	Sample
CWXE2-003	Soil	Sample	CWXE2-014	Soil	Sample
CWXE2-005	Soil	Sample	CWXE2-015	Soil	Sample
CWXE2-007	Soil	Sample	CWXE2-015D	Soil	Duplicate
CWXE2-008	Soil	Sample	CWXE2-016	Soil	Sample
CWXE2-009	Soil	Sample	* CWXE2-017F	Water	Field Blank
CWXE2-009D	Soil	Duplicate	* CWXE2-018	Water	Equip. Rinsate Blank
			* CWXE2-019	Water	Decon Water

* - Not evaluated or entered in to LAST (see above).

1. Technical Holding Times / Preservation

A. These samples were taken May 10th and 11th, shipped to the laboratory on July 27th, and the analyses were completed August 9th to 20th. This represents 90 to 109 days between sampling and analysis, which is considerably over the recommended maximum holding time of 45 days. Additionally, the laboratory noted that there was no ice left in the shipping chest upon receipt in the laboratory. While these anomalies need to be noted, Dioxin is a very stable compound and it was this reviewers opinion that no data deserved qualification due to sample holding time or preservation.

2. Calibration

A. Initial Calibration - The ion ratio (426/424 m/z) for 1,2,3,4,6,7,8-Hepta CDD in the 200 ng/mL initial calibration standard was 1.15 but should have been between 0.83 and 1.12. Because the ion ratio for this compound was acceptable in all other initial calibration standards, and because no positive results were reported for Hepta CDD in any of the samples, do data were qualified due to this anomaly.

B. Continuing Calibration - Continuing calibration criteria were met.

3. Blanks

A. The Method Blank indicated no contamination.

4. Duplicates

A. Dioxin data for Field Duplicates were acceptable.

5. Matrix Spike / Matrix Spike Duplicate

A. Spike recoveries were outside of acceptable limits (50%-125%) for 2,3,7,8-Tetra CDD in the matrix spike (126%), and for 1,2,3,4,6,7,8-Hepta CDD in the Matrix Spike Duplicate (133%). No data were qualified due to this anomaly.

6. Surrogate Recovery

A. All Surrogate Recoveries were acceptable. The data summary included with this package indicated an unacceptably low recovery for *Cl-TCDD in sample # -009D. However, the raw data indicated an acceptable recovery. This disagreement probably represents a transposition error.

7. Internal Standard Recovery

A. All Internal Standard Recovery data were acceptable.

8. Summary

A. The Dioxin data for the soil samples were acceptable and no data were qualified.

**U. S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICES ASSISTANCE TEAM – ZONE II**

ICF Technology Inc.

NSI Technology Services Corp.

The Bionetics Corp.

ESAT Region VII
NSI Technology Services
25 Funston Road
Kansas City, KS 66115
(913) 236-3881

TO: Debra Morey,
Data Review Task Monitor, USEPA Region VII

THRU: Harold Brown,
ESAT Project Officer, USEPA Region VII

FROM: Robert Nichols,
ESAT QA/QC Chemist

THRU: Ronald A. Ross,
ESAT Team Manager

DATE: September 18, 1990

SUBJECT: **Harcros Chemical - Data Review - Supplement**

TID#: 07-9003-329 Assignment#: 583
ICF ACCT.#: 26-329-02 NSI S.O.#: 4633-3292

ESAT Doc. Tracking #: _____

These data were reviewed primarily according to the standards specified in the SAS Request and the referenced method (SW-846 #8280). The following comments and attached data sheets are a result of the ESAT review, according to EPA policies, of the following data from the contract laboratory.

SAS/Case No.: 5550G
Site: Harcros Chemical
Reviewer: Bob Nichols

Laboratory: CHEMWEST
Method No.: 8280 (SW-846)
EPA Activity No.: CWXE2

This data review supplement covers ONE WATER sample, which was analyzed for DIOXINS and FURANS in support of SAS/Case number 5550G. No Laboratory Check Sample data was included. Due to a misunderstanding as to what samples were to be reviewed, this sample (CWXE2-019) was not included in the original review. It was later determined that Dioxin data for this sample was to be reviewed and entered in to LAST. This supplement is intended to meet this purpose.

The following sample was included in this data review supplement (as per the project file note, dated 7/31/90, the SMO sample number is unavailable):

<u>EPA #</u>	<u>Matrix</u>	<u>Description</u>
CWXE2-019	Water	Decon Water

1. Technical Holding Times / Preservation

A. This sample was taken some time between May 10th and 11th, shipped to the laboratory on July 27th, and the analysis was completed August 13th. This is considerably over the recommended maximum holding time of 45 days. Additionally, the laboratory noted that there was no ice left in the shipping chest upon receipt in the laboratory. While these anomalies need to be noted, Dioxin is a very stable compound and it was this reviewers opinion that no data deserved qualification due to sample holding time or preservation.

2. Calibration

A. Initial Calibration - The ion ratio (426/424 m/z) for 1,2,3,4,6,7,8-Hepta CDD in the 200 ng/mL initial calibration standard was 1.15 but should have been between 0.83 and 1.12. Because the ion ratio for this compound was acceptable in all other initial calibration standards, and because no positive results were reported for Hepta CDD in the sample, no data were qualified due to this anomaly.

B. Continuing Calibration - Continuing calibration criteria were met.

3. Blanks

A. The Method Blank indicated no contamination.

4. Matrix Spike / Matrix Spike Duplicate

A. Spike recoveries were outside of acceptable limits (50%-125%) for 2,3,7,8-Tetra CDD in the matrix spike (126%), and for 1,2,3,4,6,7,8-Hepta CDD in the Matrix Spike Duplicate (133%). No data were qualified due to this anomaly.

5. Detection Limits

A. The detection limits (DLs) reported for this sample on the laboratory data summary were 1000 times lower than they should be. The data entered in to LAST reflects these elevated DLs.

6. Surrogate Recovery

A. All Surrogate Recoveries were acceptable.

7. Internal Standard Recovery

A. All Internal Standard Recovery data were acceptable.

8. Summary

A. The Dioxin data for the water sample CWXE2-019 were acceptable and no data were qualified. However, the reported detection limits were corrected.

ANALYSIS REQUEST REPORT

FOR ACTIVITY: CWXE2

WEATHERFORD, J.

09/25/90 13:58:25

* LABO APPROVED

FY: 90 ACTIVITY: CWXE2 DESCRIPTION: HARCROS CHEM-THOMPSON/HAYWAR LOCATION: KANSAS

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: A33

LABO DUE DATE IS 8/30/90. REPORT DUE DATE IS 9/21/90.

INSPECTION DATE: 5/14/90 ALL DATA APPROVED BY LABO DATE: 09/24/90 FINAL REPORT TRANSMITTED DATE: 00/00/00

EXPECTED LABO TURNAROUND TIME IS 108 DAYS EXPECTED REPORT TURNAROUND TIME IS 130 DAYS

ACTUAL LABO TURNAROUND TIME IS 133 DAYS ACTUAL REPORT TURNAROUND TIME IS 0 DAYS

SAMP. NO	OCC	M	DESCRIPTION	SAMPLE #	STATUS	CONT.	CITY	STATE	STORET/ SAROAD LOC NO	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		05/10/90	10:00	05/10/90	10:39
002		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		05/10/90	10:50	05/10/90	11:18
003		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	12:00
004		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	12:15
005		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	12:40
006		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	14:00
007		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	14:20
008		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	14:40
009		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	15:30
009	D	S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	15:30
010		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	16:05
011		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/10/90	16:20
012		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/11/90	08:50
013		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	/ /	/
014		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/11/90	09:35
015		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/11/90	11:45
015	D	S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/11/90	11:45
016		S	HARCROS CHEMICAL	1	3		KANSAS CITY	KANSAS		/ /	/	05/11/90	13:20
016	B	S		0	0			ALL		/ /	/	/ /	/
016	R	S		0	0			ALL		/ /	/	/ /	/
016	S	S		0	0			ALL		/ /	/	/ /	/
016	W	S		0	0			ALL		/ /	/	/ /	/
017	F	W	HARCROS CHEMICAL	1	1		KANSAS CITY	KANSAS		/ /	/	05/10/90	/
018		W	HARCROS CHEMICAL	1	1		KANSAS CITY	KANSAS		/ /	/	05/10/90	/
019		W	HARCROS CHEMICAL	1	1		KANSAS CITY	KANSAS		05/11/90	15:30	/ /	/
900	M	W		0	0			ALL		/ /	/	/ /	/
901	M	W	METHOD BLANK	0	0			ALL		/ /	/	/ /	/

SAMP.
NO. OCC M

DESCRIPTION

SAMPLE #
STATUS CONT.

CITY

STATE

STORET/
SAROAD
LOC NO

BEG.
DATE

BEG.
TIME

END.
DATE

END.
TIME

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: O-CWxE2

COMPOUND	UNITS	012	013	014	015	015D	016
SD02 2,3,7,8-TCDD IN SOIL/SOLID (NG/GM)	NG/GM			2.0 U	2.4	2.4	18
SD15 NON 2378 T4CDD'S	UG/KG			2.0 U	2.0 U	2.0 U	2.0 U
SD16 2378X - P5CDD'S	UG/KG			2.0 U	2.0 U	2.0 U	2.0 U
SD17 NON 2378X P5CDD'S	UG/KG			2.0 U	2.0 U	2.0 U	2.0 U
SD18 2378XX - H6CDD'S	UG/KG			2.0 U	2.0 U	2.0 U	2.0 U
SD19 NON 2378XX H6CDD'S	UG/KG			2.0 U	2.0 U	2.0 U	3.0
SD20 2378XXX - H7CDD'S	UG/KG			2.0 U	2.0 U	2.0 U	2.0 U
SD21 NON 2378XXX H7CDD'S	UG/KG			2.0 U	2.0 U	2.0 U	2.0 U
SD22 OCTOCHLORODIBENZO-P-DIOXIN	UG/KG			2.0 U	2.0 U	2.0 U	3.1
SS28 2,4,6-TRICHLOROPHENOL	UG/KG	200 U	200 U	200 U	200 U		200 U
ZZ01 SAMPLE NUMBER	NA	012	013	014	015	015	016
ZZ02 ACTIVITY CODE	NA	CWxE2	CWxE2	CWxE2	CWxE2	CWxE2	CWxE2

ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: O-CWxE2

COMPOUND	UNITS	016B	016R	016S	016W	017F	018
SD02 2,3,7,8-TCDD IN SOIL/SOLID (NG/GM)	NG/GM	10	10	31	29		
SD15 NON 2378 T4CDD'S	UG/KG	NA 0	NA 0	NA 0	NA 0		
SD16 2378X - P5CDD'S	UG/KG	10	10	9.2	9.0		
SD17 NON 2378X P5CDD'S	UG/KG	NA 0	NA 0	NA 0	NA 0		
SD18 2378XX - H6CDD'S	UG/KG	10	10	10	9.9		
SD19 NON 2378XX H6CDD'S	UG/KG	NA 0	NA 0	NA 0	NA 0		
SD20 2378XXX - H7CDD'S	UG/KG	10	10	12	13		
SD21 NON 2378XXX H7CDD'S	UG/KG	NA 0	NA 0	NA 0	NA 0		
SD22 OCTOCHLORODIBENZO-P-DIOXIN	UG/KG	10	10	12	12		
WS28 2,4,6-TRICHLOROPHENOL	UG/L					10 U	10 U
ZZ01 SAMPLE NUMBER	NA	016	016	016	016	017	018
ZZ02 ACTIVITY CODE	NA	CWxE2	CWxE2	CWxE2	CWxE2	CWxE2	CWxE2

ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: O-CWXE2

COMPOUND	UNITS	019	900M	901M
SD02 2,3,7,8-TCDD IN SOIL/SOLID (NG/GM)	NG/GM		2.0 U	
SD15 NON 2378 T4CDD'S	UG/KG		2.0 U	
SD16 2378X - P5CDD'S	UG/KG		2.0 U	
SD17 NON 2378X P5CDD'S	UG/KG		2.0 U	
SD18 2378XX - H6CDD'S	UG/KG		2.0 U	
SD19 NON 2378XX H6CDD'S	UG/KG		2.0 U	
SD20 2378XXX - H7CDD'S	UG/KG		2.0 U	
SD21 NON 2378XXX H7CDD'S	UG/KG		2.0 U	
SD22 OCTOCHLORODIBENZO-P-DIOXIN	UG/KG		2.0 U	
WD12 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	UG/L	0.09 U		0.01 U
WD13 NON 2378 T4CDD'S	UG/L	0.10 U		0.01 U
WD14 2378X - P5CDD'S	UG/L	0.10 U		0.01 U
WD15 NON 2378X P5CDD'S	UG/L	0.07 U		0.01 U
WD16 2378XX - H6CDD'S	UG/L	0.16 U		0.01 U
WD17 NON 2378XX H6CDD'S	UG/L	0.16 U		0.01 U
WD18 2378XXX - H7CDD'S	UG/L	0.24 U		0.01 U
WD19 NON 2378XXX H7CDD'S	UG/L	0.24 U		0.01 U
WD20 OCTOCHLORODIBENZO-P-DIOXIN	UG/L	0.33 U		0.01 U
WS28 2,4,6-TRICHLOROPHENOL	UG/L	38	10 U	
WS29 2,4,5-TRICHLOROPHENOL	UG/L		10 U	
ZZ01 SAMPLE NUMBER	NA	019	900	901
ZZ02 ACTIVITY CODE	NA	CWXE2	CWXE2	CWXE2

GROUP ANALYSIS SUMMARY

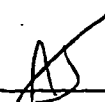
SAMPLE:	A	B	PES	D	E	FLD	G	HER	I	MC	BNC	L	MET	N	VC	PES	Q	R	BN	T	U	VOA	HC	X	Y	TRK	COMMENTS
001	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
002	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
003	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
004	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
005	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
006	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
007	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
008	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
009	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
009 D	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
010	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
011	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
012	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
013	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
014	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
015	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
015 D	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
016	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
016 B	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
016 R	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
016 S	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
016 W	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
016 F	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
019	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
900 M	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	
901 M	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
DETERM1 - NATIONS	0	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	54	
ANALYSES:	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	27	

ACTIVITY CWXE2 HARCROS CHEM-THOMPSON/HAYWAR

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, SAROAD, OR ARCHIVE.

CIRCLE ONE: STORET SAROAD ARCHIVE

DATA APPROVED BY LABO FOR TRANSMISSION TO PROJECT LEADER ON 09/25/90 13:58:25 BY

A handwritten signature, possibly 'AS', is written over a horizontal line.

DATA QUALITY REPORT

FOR ACTIVITY OCWXE2

= NO QC FILE
 *** = INSUFFICIENT DATA

(1) EXPRESSED AS THE MEAN RELATIVE STANDARD DEVIATION
 (2) EXPRESSED AS PERCENT OF SPIKE RECOVERY

MGP NUM	PARAMETER DESCRIPTION	UNITS	TOTAL METHOD DETECTION LIMIT	QC USED	TOTAL (1) METHOD PRECISION	QC USED	TOTAL (2) METHOD ACCURACY	QC USED
SD02	2,3,7,8-TCDD IN SOIL/SOLID (NG/GM)	NG/GM	###		###		###	
SD15	NON 2378 T4CDD'S	UG/KG	###		###		###	
SD16	2378X - P5CDD'S	UG/KG	###		###		###	
SD17	NON 2378X P5CDD'S	UG/KG	###		###		###	
SD18	2378XX - H6CDD'S	UG/KG	###		###		###	
SD19	NON 2378XX H6CDD'S	UG/KG	###		###		###	
SD20	2378XXX - H7CDD'S	UG/KG	###		###		###	
SD21	NON 2378XXX H7CDD'S	UG/KG	###		###		###	
SD22	OCTOCHLORODIBENZO-P-DIOXIN	UG/KG	###		###		###	
SS28	2,4,6-TRICHLOROPHENOL	UG/KG	***		###		###	
WD12	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	UG/L	***		###		###	
WD13	NON 2378 T4CDD'S	UG/L	***		###		###	
WD14	2378X - P5CDD'S	UG/L	***		###		###	
WD15	NON 2378X P5CDD'S	UG/L	***		###		###	
WD16	2378XX - H6CDD'S	UG/L	***		###		###	
WD17	NON 2378XX H6CDD'S	UG/L	***		###		###	
WD18	2378XXX - H7CDD'S	UG/L	***		###		###	
WD19	NON 2378XXX H7CDD'S	UG/L	***		###		###	
WD20	OCTOCHLORODIBENZO-P-DIOXIN	UG/L	***		###		###	
WS28	2,4,6-TRICHLOROPHENOL	UG/L	17.6	(F)	###		###	
WS29	2,4,5-TRICHLOROPHENOL	UG/L	88.1	(F)	###		###	
7701	SAMPLE NUMBER	###	###		###		###	
Z202	ACTIVITY CODE	NA	###		###		###	

*** END OF REPORT ***

TABLE OF CODES

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER
 QCC = QUALITY CONTROL SAMPLE/AUDIT CODE
 M = MEDIA OF SAMPLE (A=AIR, T=TISSUE, H=HAZARDOUS MATERIAL, S=SEDIMENT/SOIL, W=WATER)
 STORET/SAROAD LOC. NO. = A SAMPLING SITE LOCATION IDENTIFICATION NUMBER
 BEG. DATE = THE DATE SAMPLING WAS STARTED
 BEG. TIME = THE TIME SAMPLING WAS STARTED
 END. DATE = THE DATE SAMPLING WAS ENDED
 END TIME = THE TIME SAMPLING WAS STOPPED
 A = RESERVED
 B = RESERVED
 PES = PESTICIDES BY CONTRACT
 = DIOXINS/FURANS BY EPA
 E = EXPLOSIVES BY CONTRACT
 FLD = FIELD MEASUREMENTS BY EPA
 G = MINERALS & DISSOLVED MATERIALS BY EPA
 HER = HERBICIDES BY EPA
 I = ION CHROMATOGRAPHY ANALYSES BY EPA
 MC = METALS BY CONTRACT
 BNC = BASE NEUTRALS BY CONTRACT
 L = FISH PHYSICAL DATA BY EPA
 MET = METALS BY EPA
 N = FISH TISSUE PARAMETERS BY EPA
 VC = VOLATILES BY CONTRACT
 P = PESTICIDES BY EPA
 Q = FLASH POINT ANALYSES BY EPA
 R = RESERVED
 BN = SEMIVOLATILE BY EPA
 T = CYANIDE PHENOL BY EPA
 U = RESERVED
 VOA = VOLATILE ORGANICS BY EPA
 HC = HERBICIDES BY CONTRACT
 X = RESERVED
 Y = RESERVED
 TRK = ACTIVITY TRACKING PARAMETERS BY EPA

STORET DETECTION IDENTIFIERS

BLANK = NO REMARKS
 J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
 I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
 U = LESS THAN (MEASUREMENT DETECTION LIMIT)
 M = DETECTED BUT BELOW THE LEVEL FOR ACCURATE QUANTIFICATION
 O = PARAMETER NOT ANALYZED

CONTRACTOR/ IN HOUSE / FIELD MEDIA GROUPS

FIELD = * * * = AF, HF, SF, TF, WF, ZZ
 CONTRACTOR = * * = HA, HC, HJ, HK, HO, SC, SJ, SK, SO, SW, TC, TJ, TK, TO, TW, WA, WC, WE, WJ, WK, WO, WW
 IN HOUSE = * = ALL OTHERS

QUALITY CONTROL AUDIT CODES

A = TRUE VALUE FOR CALIBRATION STANDARD
 B = CONCENTRATION RESULTING FROM DUPLICATE LAB SPIKE
 C = MEASURED VALUE FOR CALIBRATION STANDARD
 D = MEASURED VALUE FOR FIELD DUPLICATE
 F = MEASURED VALUE FOR FIELD BLANK
 G = MEASURED VALUE FOR METHOD STANDARD
 H = TRUE VALUE FOR METHOD STANDARD
 K = CONCENTRATION RESULTING FROM DUPLICATE FIELD SPIKE
 L = MEASURED VALUE FOR LAB DUPLICATE
 M = MEASURED VALUE FOR LAB BLANK
 N = MEASURED VALUE FOR DUPLICATE FIELD SPIKE
 P = MEASURED VALUE FOR PERFORMANCE STANDARD
 R = CONCENTRATION RESULTING FROM LAB SPIKE
 S = MEASURED VALUE FOR LAB SPIKE
 T = TRUE VALUE OF PERFORMANCE STANDARD
 W = MEASURED VALUE FOR DUPLICATE LAB SPIKE
 Y = MEASURED VALUE FOR FIELD SPIKE
 Z = CONCENTRATION RESULTING FROM FIELD SPIKE

MEDIA CODES

A = AIR
 T = BIOLOGICAL (PLANT & ANIMAL) TISSUE
 H = HAZARDOUS MATERIALS/MAN MADE PRODUCTS
 S = SEDIMENT, SLUDGE & SOIL
 W = WATER

UNITS

NA = NOT APPLICABLE
 PG = PICOGRAMS (1 X 10⁻¹² GRAMS)
 NG = NANOGRAMS (1 X 10⁻⁹ GRAMS)
 UG = MICROGRAMS (1 X 10⁻⁶ GRAMS)
 MG = MILLIGRAMS (1 X 10⁻³ GRAMS)
 M3 = METER CUBED
 MPH = MILES PER HOUR
 SCM = STANDARD (1 ATM, 25 C) CUBIC METER
 NG = NANOGRAM
 L = LITER
 C = CENTIGRADE DEGREES
 SU = STANDARD (PH) UNITS
 # = NUMBER
 LB = POUNDS
 IN = INCHES
 M/F = MALE/FEMALE
 M2 = SQUARE METER
 I.D. = SPECIES IDENTIFICATION
 GPM = GALLONS PER MINUTE
 CFS = CUBIC FEET PER SECOND
 MGD = MILLION GALLONS PER DAY
 1000G = FLOW, 1000 GALLONS PER COMPOSITE
 UMHS = CONDUCTIVITY UNITS (1/OHMS)
 NTU = TURBIDITY UNITS
 PC/L = PICO (1 X 10⁻¹²) CURRIES PER LITER
 MV = MILLIVOLT
 SQ FT = SQUARE FEET
 P/CM2 = PICOGRAMS PER SQ. CENTIMETER
 U/CM2 = MICROGRAMS PER SQ. CENTIMETER

ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: O-CWXE2

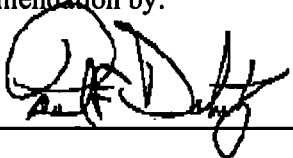
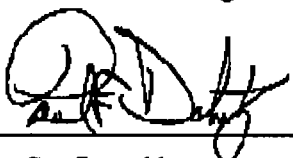
COMPOUND	UNITS	001	002	003	004	005	006
SD02 2,3,7,8-TCDD IN SOIL/SOLID (NG/GM)	NG/GM	2.0 U	2.0 U	2.0 U		2.0 U	
SD15 NON 2378 T4CDD'S	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SD16 2378X - P5CDD'S	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SD17 NON 2378X P5CDD'S	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SD18 2378XX - H6CDD'S	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SD19 NON 2378XX H6CDD'S	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SD20 2378XXX - H7CDD'S	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SD21 NON 2378XXX H7CDD'S	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SD22 OCTOCHLORODIBENZO-P-DIOXIN	UG/KG	2.0 U	2.0 U	2.0 U		2.0 U	
SS28 2,4,6-TRICHLOROPHENOL	UG/KG	1500 U	250 U	200 U	200 U	200 U	250 U
ZZ01 SAMPLE NUMBER	NA	001	002	003	004	005	006
ZZ02 ACTIVITY CODE	NA	CWXE2	CWXE2	CWXE2	CWXE2	CWXE2	CWXE2

ANALYSIS REQUEST DETAIL REPORT

ACTIVITY: O-CWxE2

COMPOUND	UNITS	007		008		009		009D		010		011	
SD02 2,3,7,8-TCDD IN SOIL/SOLID (NG/GM)	NG/GM	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD15 NON 2378 T4CDD'S	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD16 2378X - P5CDD'S	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD17 NON 2378X P5CDD'S	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD18 2378XX - H6CDD'S	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD19 NON 2378XX H6CDD'S	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD20 2378XXX - H7CDD'S	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD21 NON 2378XXX H7CDD'S	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SD22 OCTOCHLORODIBENZO-P-DIOXIN	UG/KG	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
SS2B 2,4,6-TRICHLOROPHENOL	UG/KG	290	U	200	U	500	U			350	U	200	U
ZZ01 SAMPLE NUMBER	NA	007		008		009		009		010		011	
ZZ02 ACTIVITY CODE	NA	CWxE2		CWxE2		CWxE2		CWxE2		CWxE2		CWxE2	

REGION 7 SITE ASSESSMENT DECISION DOCUMENT FOR CORRECTION OF CERCLIS CODING ERROR

Site Name: Thompson-Hayward Chemical	CERCLIS ID#: KST210010062	Alias Site Names:	
City: Kansas City	County: Wyandotte	State: KS	
CERCLIS 3 Information:			
<i>Report:</i>	<i>Date:</i>	<i>By:</i>	<i>Qualifier</i>
PA	August 1, 1981		L
PA2	October 1, 1982		L
SI	April 1, 1983		D
PA3	October 30, 1986		L
File Information:			
<i>Report:</i>	<i>Date:</i>	<i>By:</i>	<i>Qualifier</i>
SI (Form)	February 13, 1984	E & E	
PA (Form)	February 10, 1986	E & E	H
Tentative Disposition	September 4, 1989	EPA	Enforcement Action/State
Coding Problem Encountered:			
There are three PAs and 1 SI entered into CERCLIS. The 3rd PA, dated 10/30/86, post dates the SI, dated 4/1/83. CERCLIS indicates that the site was deferred to RCRA in 1983, which is confirmed by recent state correspondence which indicates that the site is being addressed by the State Bureau of Waste Management as a RCRA TSD.			
Recommended Resolution:			
Delete the 3 rd PA, dated 10/30/86, from CERCLIS. No such PA document exists in the file and the 4/1/83 SI qualifier, "D" is accurate.			
File Review/Recommendation by:			
Signature: 		Date: 2/22/99	
Concurred by:			
Signature: 		Date: 2/22/99	
CERCLIS Correction Confirmed by:			
Signature:		Date:	

Site: Thompson Hayward ID#: KST210010062 Break: 1:5 Other: 2/22/99



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

Date: 8/2/90

MEMORANDUM

SUBJECT: Data Transmittal for Activity #: CWXE2,
Site Description: ~~Harcros Chem~~

FROM: Andrea Jirka *AS*
Chief, Laboratory Branch, ENSV

TO: John R. Helvig
Acting Chief, Emergency Planning and Response Branch, ENSV

ATTN: J. Weatherford

Attached is the data transmittal for the above referenced site. These data have met all quality assurance requirements unless indicated otherwise in the data package. This should be considered a X Partial or Complete data transmittal (completes transmittal of). If you have any questions or comments, please contact Dee Simmons at 236-3881.

Attachments

cc: Data File

DATA REPORTING / QUALIFICATION CODES

- U - The material was analyzed for, but was not detected. The associated numerical value is the sample detection limit.
- J - The associated numerical value is an estimated quantity (explanation attached).
- I - The data are invalid (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.
- N - Sample not analyzed.

CODES FOR FLASH POINT DATA

- L - The sample did not ignite or "flash". This is the highest temperature at which the sample was tested. It is possible that the material may be ignitable at higher temperatures.
- K - The sample did ignite or "flash" at the lowest temperature tested. This is usually the ambient temperature at the time of the test. It is possible that the material may be ignitable at even lower temperatures.

**ICF TECHNOLOGY INCORPORATED
NSI TECHNOLOGY SERVICES CORPORATION**

U. S. EPA, Region VII
25 Funston Rd.
Kansas City, KS 66115
(913) 236-3881

TO: Bob Greenall
Chief, ORGN, LABO/ENSV

FROM: Bill L Said *BLS*
Scientist, Region VII ESAT, NSI-ES

THRU: Harold Brown
ESAT DPO, Contract Management

THRU: Ronald A. Ross *CR For RAR*
Manager, Region VII ESAT Team

DATE: July 27, 1990

SUBJECT: TID Report - Harcross chemicals

TID# 07-9003-321
ICF ACCT.# 26-321-01
NSI Sales Order # 4633-3211
EPA Activity # CWXE2
ESAT Document control # ESAT-VII-3211-072790

Three water samples with the associated QA/QC were submitted to be analyzed for Trichlorophenols. All samples were prepared according to the region VII water SOP.

The analysis showed acceptable recovery of surrogates, and spikes. A library search was performed on all samples and blank using NBS library. 2,3,4-Trichlorophenol was below the detection limit of 2,4,6- and 2,4,5-trichlorophenols.

These samples are associated with the soil CWXE2 activity.

1. **Initial Calibration:** The Region VII percent RSD requirements were met for all compounds.

2. **Continuing Calibration:** The Region VII percent deviation requirements were met for the Trichlorophenols routinely sought in an acid/neutral analysis.

3. **Method Blanks:** All TCL compounds and non TCL Phthalate-ester presence was within Region VII BNA analysis requirements.

7. **Quality Control:** The surrogate recoveries were within acceptable range for Region VII criteria for all samples, blank, and, method standard, except for sample #CWXE2018. Sample CWXE2018 had large amount of emulsion during extraction, however 2,4,6-Tribromophenol was within recovery criteria. Therefore this sample was not reextracted. All spike compounds in the method standard met region VII percent recovery requirements.

8. Summary: The data package has been submitted and the data sheets are attached to this memo. This activity is now complete, please contact me if you have any questions.

ANALYSIS TYPE:

TITLE: HARCROS CHEMICAL

MATRIX: WATERUNITS: ug/L

LAB: REGION VII EPA

METHOD: 62518CASE: CWXE2

SAMPLE PREP:

ANALYST/ENTRY: *BLS*REVIEWER: *CA*DATE: *7/25/90*

REVIEW LEVEL:

COMPOUNDSAMPLES

	CWXE2 900M	CWXE2 017	CWXE2 018	CWXE2 019
2,4,6 Trichlorophenol	10 U	10 U	10 U	38
2,4,5 Trichlorophenol	10 U	10 U	10 U	10 U
2,3,4 Trichlorophenol	10 U	10 U	10 U	10 U



VC Chamber of

221-2424

150 to levee
3.1 RR Junction
150
450
46.59

20 feet
east of Intersection
on levee